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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/988,208	11/19/2001	Kazuyuki Ohhashi	P21699	8111
7055	7590	09/27/2005	EXAMINER	
GREENBLUM & BERNSTEIN, P.L.C.			AGHDAM, FRESHTEH N	
1950 ROLAND CLARKE PLACE			ART UNIT	PAPER NUMBER
RESTON, VA 20191			2631	

DATE MAILED: 09/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/988,208	OHHASHI, KAZUYUKI	
	Examiner	Art Unit	
	Freshteh N. Aghdam	2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 May 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

This office action is in response to the communication filed 05/03/2005, the subject matters of claims 5-12 were indicated as allowable subject matter previously. However, further consideration of claims 5-12 indicates that the subject matters of claims 5-12 are not allowable in view of McVey and Thorson.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-6 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over McVey (US 6,574,286), and further in view of Thorson (US 6,101,225).

As to claims 5 and 11, McVey teaches a modulation system comprising an amplitude adjustment circuit that adjusts the amplitude of the signal output from an applied phase offset (Fig. 1, means 80, 88, 44, 46, and 146); a phase shift calculation circuit that gives the signal output from said amplitude adjustment circuit a phase offset in the range of $\Theta \in [0, 2\pi]$ see (Fig. 1, means 46, 146, 100; Col. 4, Lines 24-42). McVey is silent about a sign inversion circuit that gives a phase offset of a multiple of 90° by inverting the sign binary data. Thorson teaches a method and apparatus for performing

a modulation comprising using sign information signal to perform a phase change of 180° on the reference phase signals (Fig. 2, means 111 and 113; Col. 5, Lines 36-51). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of Thorson with McVey in order to remove one bit of information originally needed to provide full modulation capability (Col. 5, Lines 45-47).

As to claims 6 and 12, McVey teaches a phase shift calculation circuit that gives the signal output from said amplitude adjustment circuit a phase offset in the range of $\Theta \in [0, 2\pi]$ see (Fig. 1, means 46, 146, 100; Col. 4, Lines 24-42). One of ordinary skill in the art would clearly recognize that Θ may equal the fixed phase offset of zero.

Claims 7-8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over McVey and Thorson, further in view of the instant application's disclosed prior art.

As to claims 7-8 and 10, McVey teaches a modulation system comprising an amplitude adjustment circuit that adjusts the amplitude of the signal output from an applied phase offset (Fig. 1, means 80, 88, 44, 46, and 146); a phase shift calculation circuit that gives the signal output from said amplitude adjustment circuit a phase offset in the range of $\Theta \in [0, 2\pi]$ see (Fig. 1, means 46, 146, 100; Col. 4, Lines 24-42). McVey is silent about a sign inversion circuit that gives a phase offset of a multiple of 90° by inverting the sign binary data; and a transmission control section that provides phase control information to the phase offset circuit based on a message from a mobile station included in a reception. Thorson teaches a method and apparatus for performing a modulation comprising using sign information signal to perform a phase change of 180° on the reference phase signals (Fig. 2, means 111 and 113; Col. 5, Lines 36-51).

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Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of Thorson with McVey in order to remove one bit of information originally needed to provide full modulation capability (Col. 5, Lines 45-47). The instant application disclosed prior art teaches a transmission control section that provides phase control information to the phase offset circuit based on a message from a mobile station included in a reception (Pg. 1, Lines 22-28; Pg. 2, Lines 1-5). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of the instant application's disclosed prior art with McVey and Thorson in order for the mobile station to improve the level of a reception signal and clearly distinguish between interference signals from other mobile stations and the original reception signal (Pg. 2, Lines 3-5).

As to claim 8, McVey teaches a phase shift calculation circuit that gives the signal output from said amplitude adjustment circuit a phase offset in the range of $\Theta \in [0, 2\pi]$ see (Fig. 1, means 46, 146, 100; Col. 4, Lines 24-42). One of ordinary skill in the art would clearly recognize that Θ may equal the fixed phase offset of zero.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hileman et al (US 3,497,625) see figure 6; and Nishikawa (US 6,014,065) see 1-3 and 5.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Freshteh N. Aghdam whose telephone number is (571)

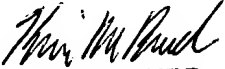
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272-6037. The examiner can normally be reached on Monday through Friday 9:00-5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Freshteh Aghdam


KEVIN BURD
PRIMARY EXAMINER

September 19, 2005